UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,692	11/24/2003	Ji-Hoon Lee	Q77016	3216

23373   7590   05/09/2008
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER
BOKHARI, SYED M

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
05/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All　b)☐ Some *　c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment filed on January 25th, 2008 has been entered. New claims

17-19 have been added. Claims 1-19 are pending in this application, with claims 1, 7,

13 and 19 being independent.

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

2.   Claims 17 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention. The specification states "multiplexer provided

the queue status monitor" which means that the queue status monitor could be inside or

outside of the multiplexer. Whereas in the new claims when you changed it to

"multiplexer composed of the queue status monitor" it requires that the queue status

monitor must be integrated in the multiplexer. Therefore, by using the term "composed"

instead of "provided" changes the claimed limitation which is not supported by the

specification.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
obviousness or nonobviousness.

3.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

4.   Claim 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Aweva et al. (US 6,894,974 B1) in view of Hayakawa (USP 5,042,029).

Aweva discloses a communication system for controlling packet transmission

rate to reduce congestion with the following features: regarding claim 1, a

communication system (10), comprising: a transmitter (12) for transmitting one or more

data packets; at least one receiver (24) connected to the transmitter, for receiving the

data packets and transmitting to the transmitter one or more response signals in

response to the received data packets (Fig. 1, packet network, see "plurality of network

elements" recited in column 4 lines 19-28); a multiplexer (50) for multiplexing and

transmitting to the transmitter the response signals transmitted from the receiver and

transmitting the transmitted data packets from the transmitter to a corresponding

receiver (Fig. 2, network elements, see " multiplexer 50" recited in column 5 lines 53-

65); the multiplexer provided with a queue status monitor for monitoring a queue status

of at least one of the transmitted data packets and the response signals (Fig. 2, network

elements, see "queue monitor" recited in column 3 lines 39-48).

Aweva et al. does not disclose the following features: regarding claim 1, a

congestion control adjuster for instructing the receiver to hold or compress the response

signals based on the monitored queue status and regarding claim 18, the congestion

control adjuster instructs the receiver to hold or compress the response signals based

on the monitored queue status received from the queue status monitor.

Hayakawa discloses a communication system with congestion control apparatus

for end-to-end traffic with the following features: regarding claim 1, of a congestion

control adjuster (12-1) for instructing the receiver to hold or compress the response

signals based on the monitored queue status (Fig. 1, network elements, see

"congestion control apparatus" recited in column 2 lines 16-34) and regarding claim 3,

wherein the congestion control adjuster instructs the corresponding receiver to hold the

response signals if the queue status of the monitored data packets is over a first

threshold (Fig. 2, delay time control, see "controlling the amount of delay" recited in

column 2 lines 7-18) and regarding claim 18, the congestion control adjuster instructs

the receiver to hold or compress the response signals based on the monitored queue

status received from the queue status monitor (Fig. 1, network elements, see

"congestion control apparatus" recited in column 2 lines 16-34).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Aweva et al. by using the features, as taught by

Hayakawa, in order to hold the response signals in the buffer based on the monitored

queue status. The motivation is to enhance the functionality of the receiver for avoiding

congestion in a cost effective manner.

5.   Claims 2, 4-5, 7-11, and 13-16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hayakawa (USP 5,042,029) in view of Aweva et al. (US 6,894,974

B1) as applied to claim 1 above, and further in view of Guttman et al. (USP 7,031,259).

Hayakawa and Aweva et al. described the claim limitations as discussed in

paragraph 5 above. Hayakawa further discloses the following features: regarding

claim 2, wherein the receiver includes a response signal holding/compressing unit for, if

instructed by the congestion control adjuster to hold the response signals (Fig. 2, delay

time control, see "a delay circuit" recited in column 2 lines 30-34) and holding the

response signals for a first predetermined period of time (Fig. 2, delay time control, see

"preset value of programmable timer 31" recited in column 4 lines 57-66); regarding

claim 4, if the queue status of the monitored data packets is under a first threshold and

over a second threshold (Fig. 1, packet switched communication system, see

"predefined threshold value" recited in column 3 lines 31-41); regarding claim 7, a

congestion control adjuster for instructing the receiver to hold or compress the response

signals based on the monitored queue status (Fig. 2, delay time control, see "a delay

circuit" recited in column 2 lines 30-34); regarding claim 8, wherein the receiver includes

a response signal holding/compressing unit for, if instructed by the congestion control

adjuster to hold the response signals (Fig. 2, delay time control, see "a delay circuit"

recited in column 2 lines 30-34) and holding the response signals for a first

predetermined period of time (Fig. 2, delay time control, see "preset value of

programmable timer 31" recited in column 4 lines 57-66); regarding claim 9, wherein the

congestion control adjuster instructs a corresponding receiver to hold the response

signals if the queue status of the monitored data packets is over a first threshold (Fig. 2,

delay time control, see "controlling the amount of delay" recited in column 2 lines 7-18);

regarding claim 10, if the queue status of the monitored data packets is under a first

threshold and over a second threshold (Fig. 1, packet switched communication system,

see "predefined threshold value" recited in column 3 lines 31-41); regarding claim 13,

instructing the receiver to hold or compress the response signals based on the

monitored queue status (Fig. 2, delay time control, see "controlling the amount of delay"

recited in column 2 lines 7-18) and holding the response signals for a first

predetermined period of time if the holding of the response signals is instructed (Fig. 2,

delay time control, see "a delay circuit" recited in column 2 lines 30-34); regarding

claim 14, wherein a congestion control adjuster instructs a corresponding receiver to

hold the response signals if the monitored queue status of the data packets is over a

first threshold (Fig. 2, delay time control, see "controlling the amount of delay" recited in

column 2 lines 7-18) and regarding claim 15, if the monitored queue status of the data

packets is under a first threshold and over a second threshold (Fig. 1, packet switched

communication system, see "predefined threshold value" recited in column 3 lines

31-41).

Aweva et al. also discloses the following features: regarding claim 7, a

communication system (10), comprising: at least one transmitter (12) for transmitting

one or more data packets; at least one receiver (24) belonging to a private network and

connected to the transmitter, for receiving the data packets and transmitting to the

transmitter one or more response signals in response to the received data packets (Fig.

1, packet network, see "plurality of network elements" recited in column 4 lines 19-28)

and a gateway (50) for arbitrating a communication protocol between the transmitter

and the private network (Fig. 2, network elements, see "multiplexer 50" recited in

column 6 lines 45-52), the gateway provided with a queue status monitor for monitoring

a queue status of at least one of the transmitted data packets and the response signals

(Fig. 2, network elements, see "queue monitor" recited in column 3 lines 39-48);

regarding claim 13, a communication method in which a receiver receiving data packets

from a transmitter transmits to the transmitter response signals corresponding to the

data packets (Fig. 1, packet network, see "plurality of network elements" recited in

column 4 lines 19-28); monitoring a queue status of at least one of the data packets and

the response signals (Fig. 2, network elements, see "queue monitor" recited in column 3

lines 39-48).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Hayakawa by using the features, as taught by Aweva

et al., in order to monitored queue status and holding the response signals for a first

predetermined period of time. The motivation for implementing it for the receiver to hold

the response signals is to enhance the functionality of the system to avoid congestion in

a cost effective manner.

Aweva et al. and Hayakawa do not disclose the following features: regarding

claim 2, if instructed by the congestion control adjuster to compress the response

signals, compressing the response signals for a second predetermined period of time;

regarding claim 4, if instructed by the congestion control adjuster to compress the

response signals, compressing the response signals for a second predetermined period

of time; regarding claim 5, wherein the congestion control adjuster instructs the

corresponding receiver to compress the response signals and if the queue status of the

monitored data packets is under a first threshold and the queue status of the response

signals is over a second threshold; regarding claim 8, if instructed by the congestion

control adjuster to compress the response signals and compressing the response

signals for a second predetermined period of time; regarding claim 10, wherein the

congestion control adjuster instructs a corresponding receiver to compress the

response signals; regarding claim 13, compressing the response signals for a second

predetermined period of time if the compression of the response signals is instructed;

regarding claim 15, wherein a congestion control adjuster instructs a corresponding

receiver to compress the response signals and if the monitored queue status of the data

packets is under a first threshold and over a second threshold and regarding claim 16,

wherein a congestion control adjuster instructs a corresponding receiver to compress

the response signals and if the monitored queue status of the data packets is under a

first threshold and the monitored queue status of the response signals is over a second

threshold.

Guttman et al. discloses a communication system for scheduling of compressible

and non-compressible packets with the following features: regarding claim 2, if

instructed by the congestion control adjuster to compress the response signals (Fig. 4,

scheduling compressible packets, see "step 110" recited in column 11 lines 25-29) and

compressing the response signals for a second predetermined period of time (Fig. 1,

scheduling table, see "determining to compress" recited in column 3 lines 49-56);

regarding claim 4, if instructed by the congestion control adjuster to compress the

response signals, compressing the response signals for a second predetermined period

of time (Fig. 1, scheduling table, see "determining a high bit rate threshold" recited in

column 3 lines 49-56); regarding claim 5, wherein the congestion control adjuster

instructs the corresponding receiver to compress the response signals (Fig. 1,

scheduling table, see "determining to compress" recited in column 3 lines 49-56) and if

the queue status of the monitored data packets is under a first threshold and the queue

status of the response signals is over a second threshold (Fig. 1, scheduling table, see

"high and low thresholds" recited in column 3 lines 45-50); regarding claim 8, if

instructed by the congestion control adjuster to compress the response signals (Fig. 4,

scheduling compressible packets, see "step 110" recited in column 11 lines 25-29) and

compressing the response signals for a second predetermined period of time (Fig. 1,

scheduling table, see "determining to compress" recited in column 3 lines 49-56);

regarding claim 10, wherein the congestion control adjuster instructs a corresponding

receiver to compress the response signals (Fig. 1, scheduling table, see "determining a

high bit rate threshold" recited in column 3 lines 49-56); regarding claim 11, wherein the

congestion control adjuster instructs a corresponding receiver to compress the

response signals (Fig. 1, scheduling table, see "determining to compress" recited in

column 3 lines 49-56) and if the queue status of the monitored data packets is under a

first threshold and the queue status of the response signals is over a second threshold

(Fig. 1, scheduling table, see "high and low thresholds" recited in column 3 lines 45-50);

regarding claim 13, compressing the response signals for a second predetermined

period of time if the compression of the response signals is instructed (Fig. 1,

scheduling table, see "determining a high bit rate threshold" recited in column 3 lines

49-56); regarding claim 15, wherein a congestion control adjuster instructs a

corresponding receiver to compress the response signals and if the monitored queue

status of the data packets is under a first threshold and over a second threshold (Fig. 1,

scheduling table, see "determining a high bit rate threshold" recited in column 3 lines

49-56) and regarding claim 16, wherein a congestion control adjuster instructs a

corresponding receiver to compress the response signals and if the monitored queue

status of the data packets is under a first threshold and the monitored queue status of

the response signals is over a second threshold (Fig. 1, scheduling table, see

"determining to compress" recited in column 3 lines 49-56).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Hayakawa with Aweva by using the features, as

taught by Guttman et al., in order to compress the signals under threshold. The

motivation is to enhance the functionality of the receiver for avoiding congestion in a

cost effective manner.

6.   Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hayakawa (USP 5,042,029) in view of Aweva et al. (US 6,894,974 B1) as applied to

claims 1 and 7 above, and further in view of Norrell et al. (USP 6,853,637 B1).

Hayakawa and Aweva et al. describe the claimed limitations as discussed in 4

and 5 above. Hayakawa and Aweva et al. do not disclose the following features:

regarding claim 6, wherein the transmitter transmits the data packets at a first

transmission rate exceeding 6 Mbps, and the receiver transmits the response signals at

a second transmission rate under 900 Kbps and regarding claim 12, wherein the

transmitter transmits the data packets at a first transmission rate exceeding 6 Mbps,

and the receiver transmits the response signals at a second transmission rate under

900 Kbps.

Norrell et al. disclose a local shared communication medium with the following

features: regarding claim 6, wherein the transmitter transmits the data packets at a first

transmission rate exceeding 6 Mbps, and the receiver transmits the response signals at

a second transmission rate under 900 Kbps (Fig. 1, communication system, see "ADSL

supports up to 6 Mbps" recited in column 2 lines 15-32 in background of the invention)

and regarding claim 12, wherein the transmitter transmits the data packets at a first

transmission rate exceeding 6 Mbps, and the receiver transmits the response signals at

a second transmission rate under 900 Kbps (Fig. 1, communication system, see "ADSL

supports up to 6 Mbps" recited in column 2 lines 15-32 in background of the invention).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Hayakawa with Aweva by using the features, as

taught Norrell et al., in order to acquire the bit rate up to 6 Mbps. The motivation is to

enhance the transmission rate of the transmitter in a cost effective manner

Response to Arguments

7.   Applicant's arguments filed January 25th, 2008 have been fully considered but

they are not persuasive. The applicant states that in claim 1, the "queue status monitor

is not an integral part of the multiplexer". Examiner respectfully disagree with the

applicant and states that the above claim limitation does not indicate that the queue

status monitor is the integral part of the multiplexer as it recites "the multiplexer provided

with a queue status monitor". It means that the queue status monitor could be inside or

outside of the multiplexer. Applicant further states that prior art of Hayakawa merely

disclose "detecting if traffic congestion occurs in the system and if traffic congestion

occur, then a delay is introduced between receipt of an acknowledgement packet by the

system from the system. There is no teaching or suggestion that a congestion control

adjuster for instructing the receiver to hold or compress the response signal is based on

a monitor queue status". Examiner respectfully disagree and refers to Hayakawa

reference of (column 2 lines 16-34) and Aweva et al. reference of (column 3 lines

39-48).

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED BOKHARI whose telephone number is (571)270-3115. The examiner can normally be reached on Monday through Friday 8:00-17:00 Hrs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Syed Bokhari/

Examiner, Art Unit 2616

4/10/2008

/Kwang B. Yao/
Supervisory Patent Examiner, Art Unit 2616